DOCUMENT RESUME

ED 133 976 EC 092 884

AUTHOR	Beard, Jacob G.; Zannit, Stephen J.
TITLE	Florida Statewide Assessment of Trainable Mentally Retarded: Technical Report 1975-76.
INSTITUTION	Florida State Dept. of Education, Tallahassee. Bureau of Education for Exceptional Students.; Florida State Dept. of Education, Tallahassee. Div. of Public Schools.
REPORT NO	77-06
PUB DATE	Dec 75
NOTE	65p.; For additional information, contact the Florida Department of Education, Division of Public Schools, Assessment Section, Tallahassee, Florida 32304, or call 904-488-8198
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS	*Daily Living Skills; Demography; Elementary Education; Exceptional Child Research; Mentally Handicapped; *Rating Scales; *Self Care Skills; State Surveys; Statistical Data; *Student Evaluation; *Trainable Mentally Handicapped
IDENTIFIERS	*Florida

ABSTRACT

Reported are results of the 1976 assessment program involving 1,742 trainable mentally retarded (TMR) students (10-14 years old) enrolled in Florida public schools. It is noted that the students were observed and rated by their teachers on a six-category scale (ranging from completed independently to physically unable) assessing their performance on 99 state-approved objective tasks (such as puts on socks, identifies objects to avoid, and writes name legibly). The document is divided into two parts. Part I includes descriptions of the development of the TMR assessment instrument, some characteristics of the instrument and tested population, some general results obtained from the testing, and implications of the audit results. Part II consists of tables on student performance by sex, age, level of retardation, and race; level of item mastery by type of school; duration of TMR enrollment; and frequency with which items were omitted from the test. Appended is a table on the frequencies in percent with which each of the six scale values were used for each item. (SBH)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

STATISTICAL REPORT

December 1975

Series 77-06

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED133976

Division of Public Schools' MIS

Florida Statewide Assessment of TRAINABLE MENTALLY RETARDED

technical report 1975-1976

EC 092884

FOREWORD

The Trainable Mentally Retarded (TMR) students in Florida were assessed for the first time as a part of the Florida Statewide Assessment Program in 1976.

The TMR assessment was a joint effort among the Florida Department of Education, Assessment Section and Bureau of Education for Exceptional Students; and Florida State University, Division of Sponsored Research. The authors of this report were from Florida State University and included Dr. Jacob G. Beard and Mr. Stephen J. Zammit. The project director for developing the TMR assessment instrument at Florida State University was Dr. Jacob G. Beard and the project directors for the Department of Education were Mrs. Virginia Cellon, Assessment Section, and Mrs. Virginia Eaton, Bureau of Education for Exceptional Students.

Questions or comments about this report and requests for additional information should be directed to the Florida Department of Education, Division of Public Schools, Assessment Section, Tallahassee, Florida 32304, or by calling 904/488-8198.

TABLE OF CONTENTS

	Page
FOREWORD	ii
List of Tables	iv
Introduction	v
Part I	
Background	1
Description of the Instrument	3
Reliability	4
Description of the Intermediate TMR Population	5
Results	8
Audit	10
Part II	
Student Performance by Sex	13
Student Performance by Age	15
Student Performance by Level of Retardation	23
Student Performance by Race	31
Type of School	39
Duration of TMR Enrollment	41
Omitted Items	43
APPENDIX	
Frequencies in Percent with Which Each of the Six Scale Values Were Used for Each Item	45

LIST OF TABLES

		Page
1	Demographic Classifications of Students.	6
2	Summary of Student Performance by Item	9
3	Proportion of Agreement Between Teacher Ratings and Audit Ratings.	11
4	Level of Item Mastery by Sex	13
5	Percentage Mastery for Items Where Results Differed by Students' Sex.	14
6	Level of Item Mastery by Age.	16
7	Percentage Mastery for Items Where Results Differed by Age. .	17
8	Level of Item Mastery by Degree of Retardation.	24
9	Percentage of Students Mastering Each Item by Level of Retardation	25
10	Level of Item Mastery by Race	32
11	Percentage Mastering Each Item Where One Race Outperformed Another	34
12	Percentage of Students at Each Retardation Level by Race. . .	38
13	Percentage of Students at Each Age by Race.	39
14	Level of Item Mastery by Type of TMR School	40
15	Level of Item Mastery by Length of Time in Program.	42
16	Frequency With Which Items Were Omitted	44

FLORIDA STATE-WIDE ASSESSMENT OF TRAINABLE MENTALLY RETARDED: REPORT OF 1976 RESULTS

The purpose of this report is to describe the 1976 Assessment of Trainable Mentally Retarded (TMR) Students. The instrument used in the assessment was developed in 1975 and is based on 99 state-approved objectives. The 1976 assessment program included TMR students who were 10-14 years of age, and enrolled in a Florida public school. The students were observed and rated by their teachers on a six-category scale assessing their performance on the 99 objective tasks. A small proportion of the participating TMR school centers were the subject of a follow-up audit study to determine the validity of the assessment results.

This report will be divided into two parts. Part I will describe: the development of the TMR assessment instrument, some characteristics of the instrument, and of the tested population, some general results obtained from the testing and implications of the audit results. Part II will investigate student performance on the test by sex, age, level of retardation, race and duration of enrollment in a TMR program, as well as look at the frequency with which items were omitted from the test.

PART I

Background

The Florida Legislature has expressed, in recent years, an increasing interest in systematically measuring the achievement of Florida public school students. The TMR assessment is a result of that concern and an equally great concern on the part of the Department of Education (DOE). The TMR assessment program is administered by the DOE's Assessment Section in cooperation with the Bureau of Education for Exceptional Students.

The instrument used in the statewide assessment of TMR students is based on the Catalog of Behavioral Objectives for Trainable Mentally Retarded Students (1974) developed by the Duval County School Board under a USOE-DHEW Title VI-B grant awarded through the Bureau of Education for Exceptional Students, Florida Department of Education.

The Catalog was developed with the understanding that, upon approval, it would be adopted for use throughout the state. Because it was to be a state-wide program, major emphasis was placed on the broad-based validation of the objectives and the criteria associated with mastery of each objective. The Catalog was produced with the cooperation of a large number of parents, teachers, and other professionals. The final product, consisting of 869 objectives, covers three competency areas: social, academic, and vocational. These three areas are subdivided into 33 skill areas or clusters. This catalog was designed to provide a framework which would be the basis for Florida's TMR instructional program.

The objectives included in the Catalog were rated by a large number of parents, teachers, and community agency personnel, and ranked in order of importance for the TMR student. They included objectives for the whole spectrum of chronological and mental age range of the TMR population. However, from an assessment standpoint, it is more feasible to measure a narrower spectrum of the population. Thus, it was decided to limit the target population for the initial assessment to those TMR students who were 10-14 years old (intermediate) and to those objectives identified as appropriate for TMR students at this age level.

One hundred objectives were chosen from the total ranked set on the basis of their importance ranking, their appropriateness for intermediate level students, and their comprehensive but non-redundant coverage of the competencies included in the Catalog. This list of 100 objectives, subsequently reduced to 99, was the basis for the TMR assessment instrument.

Description of the Instrument

The TMR assessment instrument is a behavioral observation and rating scale. A sample item is shown below:

		1	2	3	4	5	6
11.	USES KNIFE: Uses a fork and knife to cut solid food.	☐	☐	☐	☐	☐	☐

All items contain a general statement of the behavior in capital letters. The expanded statements in small letters have been devised to either: (1) show the components of behavior that should be present in order to mark one of the "completes" categories of the scale, or (2) provide an example of the behavior.

Each of the six response categories is defined as follows:

1. COMPLETES INDEPENDENTLY: The student will initiate and complete the behavior independently (i.e., without being asked or told) in circumstances appropriate for the behavior.

2. COMPLETES WHEN ASKED: When asked, the student correctly performs the complete behavior without cues or prompts during the performance.

3. COMPLETES WHEN PROMPTED OR CUED: The student performs the complete behavior only if cued or prompted during the performance.

4. PARTIALLY COMPLETES: The student can only partially complete behavior even if prompted or cued during the performance. This response option includes those behaviors which are not whole and those which are whole but not presented frequently enough or at the right times.

5. NO: The student cannot perform any part of the behavior even if prompted or cued.

6. PHYSICALLY UNABLE: The student has a physical handicap that completely rules out even attempting to perform the behavior.

Due to the wide range of behaviors on the TMR assessment instrument, some response categories are inappropriate for some items. For instance, many items require that the student be asked to perform a task such as repeating words after the teacher. For such items, COMPLETES WHEN ASKED is appropriate, but the COMPLETES INDEPENDENTLY category is inappropriate. Many of the inappropriate response options were deleted by removing the corresponding "☐" from the scale.

Reliability

In order for a rating and observation scale such as the TMR assessment instrument to be useful, the ratings of TMR students using it should be reliable. That is, we should expect that assessments made of a particular student would not be substantially different if they were made by another teacher or observer (inter-teacher reliability) or if they were made at a different time (test-retest reliability).

A measure of inter-teacher reliability was obtained during a field test of the instrument. Fifty-eight students were rated on two different occasions by two teachers. In addition, twelve more students were rated on one occasion by two teachers. Thus, 128 cases were obtained where students were rated by two different teachers. It was found that using the complete six-category scale the pairs of teachers agreed with each other an average of 78% of the time. If the first three categories were collapsed to give a general "completes" category, the four-category scale resulted in the pairs of teachers agreeing an average of 89% of the time.

Test-retest reliability was measured by examining the 58 students who were rated on two different occasions by two teachers. This procedure yielded 116 pairs of ratings. Utilizing the six-category scale, a given teacher gave the same rating on two different occasions, an average of 79% of the time. The average agreement increased to 89% of the time when the collapsed four-category scale was used.

The foregoing findings indicate that the results of the instrument were substantially the same when the instrument was administered by different persons and on different occasions.

Description of the Intermediate TMR Population

The 1976 administration of the TMR assessment instrument included 1742 students. These students were categorized by degree of retardation, chronological age, sex, racial origin, type of school attended, duration of enrollment in a TMR program, and by the nature of other physical disabilities which they might have. A breakdown of how many

students were classified into each level of each category is given in Table 1.

Table 1

Demographic Classifications of Students

Classification Category	Number of Students	Percent of the Population
Degree of Retardation		
Mild (69-55)	116	6.7
Moderate (54-40)	938	53.8
Severe (39-25)	503	28.9
Profound (24-0)	65	3.7
Information Not Given	120	6.9
Chronological Age		
10 Years	256	14.7
11 Years	326	18.7
12 Years	382	21.9
13 Years	401	23.0
14 Years	377	21.6
Sex		
Male	975	56
Female	767	44
Racial Origin		
American Indian or Alaskan Native	1	.1
Asian or Pacific Islander	4	.2
Black, Not of Hispanic Origin	659	37.8

(Cont'd next page)

Table 1 (Cont'd)

Classification Category	Number of Students	Percent of the Population
White, Not of Hispanic Origin	921	52.9
Hispanic	129	7.4
Information Not Given	28	1.6
Type of School Attended		
Regular	696	40
Special TMR Centers	1,003	57.6
Contractual	16	.9
Information Not Given	27	1.5
Duration of Enrollment		
Less than 4 Months	31	1.8
4 Months to 1 Year	163	9.4
1 Year to 4 Years	667	38.3
4 Years or More	846	48.6
Information Not Given	35	2
Other Disabilities		
Impaired Hearing	50	2.9
Partially Sighted	98	5.6
Speech Disorder	511	29.3
Convulsive Disorder	142	8.2
Physical Disorder	138	7.9
Emotional Disorder	127	7.3

Results

Appendix A of this report contains a listing of each item of the instrument. Next to each item the percent of students categorized in each of the possible six response categories is given. In addition the percent of students omitting the item is included. These are the basic data from the assessment and will be of most importance and use to the reader. Additional interpretative analyses are presented in the following pages and in Part II of this report.

A major function of the TMR assessment instrument is to identify how many of the students can successfully perform each of the 99 given tasks. In order to examine this question "mastery" of a task will be defined as being able to complete the task independently, when asked, or when cued or prompted; i.e., students who are rated in response categories 1, 2, or 3 will be said to have mastered the task. The following example shows the division of the scale into "mastery" and "non-mastery" categories.

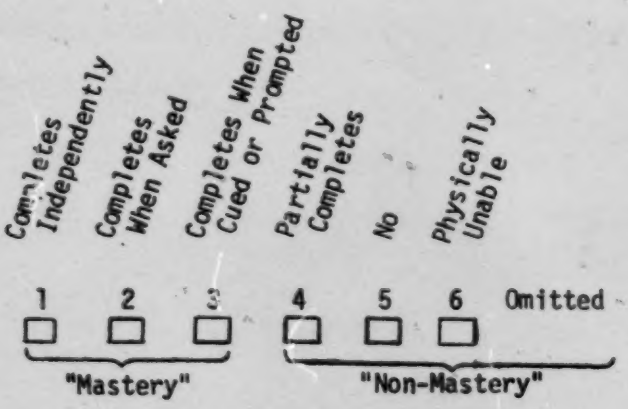

Table 2 illustrates which items were mastered by 75% to 100% of the students, 50% to 64% of the students, 25% to 50% of the students and 0% to 25% of the students.[1]

Table 2

Summary of Student Performance by Item

Percentage Mastering	Items	Total Number of Items
75 - 100	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 66, 72-74, 79, 80	48
50 - 75	11, 27, 28, 30, 33-35, 37, 39-43, 52, 64, 67-71, 75-77, 88-90, 93	27
25 - 50	20, 32, 36, 60, 61, 78, 81, 91, 92, 94-96	12
0 - 25	24, 62, 63, 82, 87, 97-99	12

Approximately half of the tasks were completed by 75% or more of the students while 12, or eight percent, of the tasks were completed by 25% or fewer. By relating the item numbers of Table 2 to the item statements in Appendix A, it is apparent that, with exceptions, the students performed best on personal and social tasks, and least well on more verbal tasks; for example, those requiring the comprehension of written words. Mathematical concepts such as: selecting designated numbers

[1]It is important to note that mastery levels indicated in Table 2 were based upon the entire population of students who were assessed with the instrument, while mastery levels in all remaining tables will be based only upon students for which responses were obtained. Students for which an item was omitted or who were classified physically unable to achieve a particular item, were omitted from the population when the percent of students mastering the item was computed.

of objects, differentiating between more or less, telling time on the hour, identifying coins, and naming coins were mastered by from 25% to 50% of the students.

Audit

An audit procedure was designed to validate the teacher observations. The purpose of this procedure was to determine the relationship between the teachers' assessments and those of a trained observer having no prior knowledge of the children.

Seventeen TMR sites in twelve school districts were audited. These sites were chosen to represent the major geographic locales in the state, and to include various sizes of TMR facilities. The auditors were directors of TMR programs from adjacent districts.

Twenty items were used in the auditing procedure. A decision was made to maximize the number of students used in the audit, hence only four or five objectives were readministered to each student.

In the audit procedure one of the student's teachers administered the items or set up the observation situation. The auditors observed and evaluated the response but did not elicit the behavior themselves.

Table 3 indicates the proportion of agreement between the auditor and the teacher for each of the 20 objectives using the "collapsed" scale. Among students whose teachers rated them as masters of the objective, there were 11 items where 90% or more of the auditors' ratings agreed with the teachers' ratings, five items where 85% to 89% of the auditors' and teachers' ratings agreed; and one item each where 77%, 72%, 65% and 44% of the ratings were in agreement.

Table 3

Proportion of Agreement Between Teacher Ratings and Audit Ratings

Objective	Number of Students Mastering		Percentage Agreement Between the Two Ratings	Number of Students Not Mastering		Percentage Agreement Between the Two Ratings	Number of Physically Unable Students		Total No. of Ratings	Overall Percentage Agreement
	Teacher Rating	Audit Rating		Teacher Rating	Audit Rating		Teacher Rating	Audit Rating		
38 Identifies own clothing	40	38	95	3	0	0	0	0	43	88
40 Identifies objects to avoid	29	26	90	14	3	21	2	0	45	64
42 Identifies objects harmful if swallowed	31	28	90	12	7	58	0	0	43	81
57 Catches	39	39	100	4	1	25	1	0	44	91
58 Opens, closes doors	44	44	100	3	0	0	0	0	47	94
59 Grasps, picks up an object	50	50	100	1	0	0	0	0	51	98
61 Writes name legibly	29	21	72	21	19	90	1	0	51	78
68 Produces three-word phrase/sentence	30	27	90	19	13	68	3	0	52	77
71 Follows three-step directions	32	29	91	16	8	50	1	0	49	76
73 Names body parts	39	36	92	9	7	78	1	0	49	88
76 Differentiates Between Over & Under	33	28	85	15	7	47	0	0	48	73
78 Differentiates Between Left & Right	23	15	65	23	18	78	2	0	48	69
80 States Whole Name	47	44	94	3	2	67	1	0	51	90
82 States Telephone Number	17	15	88	29	19	66	3	0	49	69
88 Counts Orally (1-10)	43	38	88	8	5	63	2	0	53	81
90 Names Flashcard Numerals (0-10)	31	28	90	15	13	87	1	0	47	87
92 Differentiates Between More or Less	13	6	46	32	21	66	0	0	45	60
94 Tells Time on the Hour	18	16	89	21	11	52	3	1	42	67
95 Identifies Coins	17	15	88	25	18	72	2	0	44	75
96 Names Coins	13	10	77	25	20	80	5	2	43	74

The proportion of agreement between teacher and auditor ratings was less for students who were rated as non-masters by their teacher. There was one item each where 90%, 87%, and 80% of the auditors' and teachers' ratings agreed, three items where 72% to 78% agreed, five items where 63% to 68% agreed, three items where 50% to 58% and six items where less than 50% agreed. The direction of these differences generally indicates that auditors more often rated the tasks as being completed than teachers.

There was little agreement between the teacher and the auditor when the teacher rated a student physically unable. In almost every case, the auditor rating failed to agree with the teacher rating. A further examination of this discrepancy could be made by checking the identification portion of the answer sheet to determine the "additional handicaps" for those students rated "physically unable" on one or more items.

Examining the consistency for the mastery, non-mastery, and physically unable categories of the scale, total agreement between teachers' and auditors' ratings is generally high; 90% or greater for four items, 81% to 88% for five items, 73% to 78% for six items, and 60% to 69% for five items. On the average, teachers' and auditors' ratings agreed 79% of the time over all categories for the 20 items.

PART II

Student Performance by Sex

An indication of which items were most frequently completed by male and by female students can be obtained by examining Table 4. Student proficiency is highest for those items at the 75% to 100% mastery level and lowest for those at the 0% to 25% mastery level.

Table 4

Level of Item Mastery by Sex

Percentage Mastering Each Item	MALE		FEMALE	
	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items
75 - 100	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-46, 48-51, 53-59, 65, 66, 72-74, 79-80	47	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 66, 72-74, 76, 79, 80, 88	50
50 - 75	11, 27, 28, 30, 33-37, 39-43, 47, 52, 64, 67-71, 75-77, 88-90, 93	29	11, 20, 24, 27, 28, 30, 33-37, 39-43, 52, 61, 64, 67-71, 75, 77, 89-91, 93	30
25 - 50	20, 32, 60, 61, 78, 81, 91, 92, 94-96	11	32, 60, 62, 78, 81, 82, 92, 94-96	10
0 - 25	24, 62, 63, 82-87, 97-99	12	63, 83-87, 97-99	9

Table 5 contains a listing of all items for which the percentage of male students mastering an item differed from the percentage of female students mastering the item by at least 5%. Female students out-

performed male students on 14 out of the 15 items listed. It is interesting to note that seven of the items where females demonstrated superior performance to males were related to the child's aggressive tendencies, and three measured writing skills. These results indicate that the female students tended to be less aggressive than the male students and that the females tended to have better handwriting skills than the males.

Table 5

Percentage Mastery for Items
Where Results Differed by Students' Sex

Item Number	Item	Percent Mastering	
		Males	Females
20	Ties shoes	42.6	52.0 *
24	Demonstrates Menstrual Care	Not Appropriate	54.8
35	Grooms Hair	70.5 *	61.0
37	Hangs clothes on Hanger	66.0	71.4 *
45	Behaves in Safe Manner on Playground	88.6	95.0 *
46	Pays Attention in Group Situation	78.2	84.9 *
47	Avoids Physical Abuse of Others	74.5	84.9 *
48	Avoids Verbal Abuse of Others	75.6	83.1 *
49	Cooperates with Class Members	79.3	85.1 *
50	Obeys Explicit Rules	77.8	84.5 *
51	Respects, Cares for Property	75.9	82.9 *

(Cont'd next page)

Table 5 (Cont'd)

Item Number	Item	Percent Mastering Males	Females
61	Writes Name Legibly	43.9	51.1 *
62	Writes Own Telephone Number Legibly	19.2	27.4 *
63	Writes Own Street Address Legibly	15.5	20.6 *
82	States Telephone Number	22.8	28.9 *

* Indicates which sex demonstrated superior performance.

Student Performance by Age

Older students were able to satisfactorily complete more items than younger students. Table 6 illustrates which tasks were most frequently completed successfully by students in each age group tested. Proficiency was demonstrated on 55 items by at least 75% of the 14-year-old students, while between 75% - 100% of 10-year-old students were proficient on only 37 items. The greatest increase in number of items mastered between two successive ages occured between 10 and 11-year-old students.

Table 6

Level of Item Mastery by Age

Percentage Mastering Each Item	10 Years		11 Years		12 Years		13 Years		14 Years	
	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items
75 - 100	1, 2, 4, 7-10, 12-15, 19, 21-23, 25, 26, 29, 38, 44-49, 53-59, 65, 72, 73, 79, 80	37	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 72-74, 79, 80	47	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 66, 72-74, 76, 77, 79, 80	50	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 64-66, 70, 72-76, 79, 80, 88	53	1-10, 12-19, 21-23, 25, 26, 27, 29, 31, 36, 38, 43-51, 53-59, 64-66, 72-76, 79, 80, 88	55
50 - 75	3, 5, 6, 16-18, 27, 28, 31, 34, 35, 37, 41, 43, 50-52, 64, 66, 67, 69-71, 74-77, 88	28	27, 28, 33-37, 39-43, 52, 64, 66-71, 75-77, 88-90	26	11, 24, 27, 28, 30, 33-37, 39-43, 52, 64, 67-71, 75, 78, 88-91, 93	29	11, 20, 24, 27, 28, 30, 33-37, 39-43, 52, 61, 67-69, 71, 77, 78, 89-91, 93	28	11, 20, 24, 28, 30, 33-35, 37, 39-42, 52, 61, 67-71, 77, 78, 89-91, 93, 95, 96	28
25 - 50	11, 20, 30, 33, 36, 39, 40, 42, 61, 68, 78, 89-91, 93, 95	16	11, 20, 24, 30, 32, 61, 78, 91-93, 95, 96	12	20, 33, 60, 61, 81, 92, 94-96	9	32, 60, 62, 81, 82, 92, 94-96, 98	10	32, 60, 62, 63, 81, 82, 92, 94, 97, 98	10
0 - 25	24, 32, 60, 62, 63, 81-87, 92, 94, 96-99	18	60, 62-63, 81-87, 94, 97-99	14	62, 63, 82-87, 97-99	11	63, 83-87, 97, 99	8	83-87, 99	6

Table 7 contains a listing of all items where at least one age group outperformed at least one other age group; i.e., the percentage of students mastering the item in one age group was at least 5% greater than the percentage of students mastering the item in one other age group. The 89 items included in the Table clearly show the trend for older students to outperform younger students. Older students tended to perform better on the remaining ten items also, though differences in performance between age groups were small. The small differences are caused mainly by the high degree of mastery (75% - 100% proficiency) in these tasks by even the younger students.

Table 7

Percentage Mastery for Items Where Results Differed by Age

Item Number	Item	Percentage Mastering				
		10 Years	11 Years	12 Years	13 Years	14 Years
1	Wipes food from hands	80.9	88.9	88.9	91.9	92.0 *
2	Wipes food from face	81.3	86.8	87.9	91.2 *	89.9
3	Blows nose	73.6	82.9	85.2	88.9	89.6 *
5	Washes, Dries face	71.5	78.0	81.8	83.3	86.? *
6	Brushes teeth	74.7	83.2	81.6	84.6	86.6 *
8	Drinks from glass	92.5	95.7	97.6	95.7	98.7 *
9	Uses spoon	87.8	90.5	93.9	92.9	94.4 *
10	Uses fork	82.5	87.7	91.0	90.4	91.2 *
11	Uses knife	32.8	48.9	55.2	59.9	68.7 *

(Cont'd next page)

Table 7 (Cont'd)

Item Number	Item	Percentage Mastering				
		10 Years	11 Years	12 Years	13 Years	14 Years
12	Uses napkin	84.6	88.6	89.4	90.5	92.0*
13	Uses proper table manners	75.4	81.3	83.9	85.3	88.2*
15	Pulls up clothes	86.0	90.5	91.5	94.6	94.9*
16	Puts on socks	72.4	79.8	84.0	87.2	88.2*
17	Uses snaps	71.3	85.0	83.7	87.0	88.0*
18	Uses buttons	70.9	83.8	84.8	87.4	87.8*
19	Uses zipper	76.2	87.0	88.0	94.7*	90.9
20	Ties shoes	26.0	32.3	49.7	54.5	61.5*
21	Urinates appropriately	85.7	91.0	93.1	91.1	95.2*
22	Reports sickness or injury	76.5	82.9	84.7	85.4	86.2*
23	Defecates appropriately	81.8	90.1	91.3	89.6	93.9*
24	Demonstrates menstrual care	Not Appropriate		50.8	50.5	65.5*
26	Empties trash	77.9	84.8	88.2	90.3	89.5*
27	Sweeps floor	55.6	67.3	69.3	73.7	75.9*
28	Cleans sink	55.6	64.9	64.6	69.6	74.2*
29	Opens container	81.1	89.6*	89.4	89.0	88.6
30	Opens bottles	38.4	46.8	54.6	65.8*	64.8
31	Open jars	73.2	85.5	82.7	86.1*	82.5
32	Opens cans	21.3	27.9	35.0	40.8	46.3*

(Cont'd next page)

Table 7 (Cont'd)

Item Number	Item	Percentage Mastering				
		10 Years	11 Years	12 Years	13 Years	14 Years
33	Washes dishes	43.5	54.2	56.9	65.3	70.8 *
34	Hangs clothes	55.4	60.5	61.0	67.9	71.8 *
35	Grooms hair	53.6	65.0	66.8	69.2	72.4 *
36	Applies deodorant	46.8	52.9	62.7	74.1	77.6 *
37	Hangs clothes on hanger	56.6	63.1	70.7	73.0	73.8 *
39	Identifies clothing appropriate for weather conditions	42.2	56.1	56.3	61.4 *	59.1
40	Identifies objects to avoid	38.8	57.5	59.8	68.4 *	65.1
41	Identifies objects harmful to eyes	54.0	67.8	69.8	72.2 *	68.8
42	Identifies objects harmful if swallowed	45.6	58.7	63.0	68.7 *	66.0
43	Passes sharp objects safely	63.9	74.5	72.8	74.6	78.7 *
45	Behaves in safe manner on playground	84.0	91.3	92.0	94.2 *	92.8
46	Pays attention in group situations	82.0	78.5	79.2	82.5	83.7 *
47	Avoids physical abuse of others	75.8	76.6	78.2	80.7	82.7 *
49	Cooperates with class members	82.0	81.2	79.6	84.7 *	81.6
50	Obeys explicit rules	72.6	79.3	81.0	84.2 *	83.5

(Cont'd next page)

Table 7 (Cont'd)

Item Number	Item	Percentage Mastering				
		10 Years	11 Years	12 Years	13 Years	14 Years
51	Respects, cares for property	73.2	77.3	78.4	81.5	82.1 *
52	Begins and continues work with a minimum of supervision	60.2	64.2	64.6	73.6	73.9 *
55	Climbs stairs	78.3	83.0	87.5	66.8	89.6 *
56	Throws underhand	83.7	89.0	90.7	92.2 *	90.5
57	Catches	81.1	83.8	85.9	88.9 *	86.5
58	Opens, closes doors	92.8	94.8	96.8	97.0	98.1 *
60	Dials Private Dial Telephone	15.5	23.3	35.0	41.7	46.4 *
61	Writes Name Legibly	26.0	36.8	49.1	52.3	62.5 *
62	Writes Own Telephone Number Legibly	8.4	15.0	20.4	27.9	36.5 *
63	Writes Own Street Address Legibly	6.0	11.6	16.5	20.9	28.7 *
64	Produces Ten Food Words	58.6	71.0	73.9	79.7 *	75.3
65	Repeats five food words after teacher	81.3	85.7	90.4	92.6 *	87.7
66	Identifies Ten Food Words	67.5	73.7	78.3	84.8 *	82.1
67	Comprehends ten food words	50.2	64.1	66.2	72.8 *	72.3
68	Produces Three Word Phrase/ Sentences	42.3	50.8	54.7	57.7 *	57.0

(Cont'd next page)

Table 7 (Cont'd)

Item Number	Item	Percentage Mastering				
		10 Years	11 Years	12 Years	13 Years	14 Years
69	Repeats three word phrase/sentences	51.8	64.3	64.4	70.7 *	68.9
70	Discriminates loud, soft sounds	55.5	67.7	69.6	78.1 *	74.1
71	Follows three step directions	55.8	66.4	68.8	74.4 *	69.2
72	Identifies major body parts	85.5	91.0	89.9	93.9 *	90.4
73	Names body parts	76.3	80.7	83.6	87.2 *	84.3
74	Differentiates between up & down	69.3	81.2	79.2	83.6 *	81.7
75	Differentiates between front & back	64.3	72.5	72.6	77.8 *	77.4
76	Differentiates between over & under	63.6	71.2	78.5 *	76.2	77.2
77	Differentiates between around & through	57.0	72.8	75.5 *	74.1	74.3
78	Differentiates between left & right	38.7	47.2	52.7	52.9	53.5 *
79	Knows own sex	82.3	92.0	90.1	92.7 *	87.5
80	States whole name	76.9	84.4	83.6	87.0 *	85.6
81	States address	18.4	23.7	39.3 *	37.4	45.1
82	States telephone numbers	9.7	17.8	23.9	32.3	37.7 *
83	Names ten flashcard safety words	3.3	7.1	8.6	11.3	14.5 *
84	Comprehends ten written safety words	6.0	11.1	13.3	21.5	25.0 *

(Cont'd next page)

Table 7 (Cont'd)

Item Number	Item	Percentage Mastering				
		10 Years	11 Years	12 Years	13 Years	14 Years
85	Names ten flashcard public sign words	2.4	4.5	6.9	9.2	12.4 *
86	Comprehends ten written public sign words	3.2	6.7	8.4	12.9	17.6 *
87	Names five flash-card public building title words	1.6	4.2	5.8	8.1	11.3 *
88	Counts orally	59.5	69.8	73.6	81.4 *	76.4
89	Counts objects	48.4	61.9	65.0	74.0 *	70.9
90	Names flashcard numerals	44.4	51.6	61.6	66.5 *	66.4
91	Selects designated number of objects from group	32.0	43.0	51.4	56.8	60.3 *
92	Differentiates be-tween more or less	22.4	29.1	34.7	42.2	45.0 *
93	Differentiates be-tween all-some-none	38.5	50.2	57.4	66.3 *	63.2
94	Tells time on hour	15.7	23.9	35.4	37.3 *	37.2
95	Identifies coins	25.6	34.1	43.9	48.7	50.8 *
96	Names coins	20.9	32.3	41.3	44.1	50.8 *
97	Reads five prices under $1.00	6.4	11.5	19.7	23.5	30.5 *
98	Differentiates worth of coins, currency	10.0	15.2	21.8	26.0	33.2 *
99	Makes change up to 50 cents	.4	.9	2.4	4.2	7.7 *

* Indicates which age group demonstrated superior performance.

Student Performance by Level of Retardation

The discrepancy between the number of items mastered is much greater between students classified at different levels of retardation than it was for students of different ages. Seventy-six items were mastered by at least 75% of the students classified mildly retarded, while 67, 30, and 4 items were mastered by at least 75% of the students respectively classified at a moderate, severe and profound level of retardation. Table 8 identifies the items on which a student at a specific level of retardation is most likely to succeed. Table 9 indicates the frequencies with which items were mastered at each of the four levels of retardation.

Table 8

Level of Item Mastery by Degree of Retardation

Percentage Mastering Each Item	MILD		MODERATE		SEVERE		PROFOUND	
	Item Number	Total No. of Items	Item Number	Total No. of Items	Item Number	Total No. of Items	Item Number	Total No. of Items
75 - 100	1-19, 21-23, 25-31, 33-38, 40-59, 64-77, 79, 80, 88-91, 93	76	1-10, 12-19, 21-23, 25-29, 31, 35-38, 41-59, 64-67, 69-77, 79, 80, 88, 89	67	1, 2, 4, 7-10, 12, 14, 15, 19, 21, 23, 25, 26, 29, 38, 44, 45, 47, 53-59, 65, 72, 79	30	7, 8, 58, 59	4
50 - 75	20, 24, 32, 39, 60, 61, 78, 81, 92, 94-96	12	11, 20, 24, 30, 33, 34, 39, 40, 61, 68, 78, 90, 91, 93, 95, 96	16	3, 5, 6, 13, 16-18, 22, 27, 31, 37, 43, 46, 48-51, 64, 66, 69, 73, 74, 76, 77, 80, 88	26	9, 10, 12, 14, 15, 25, 44-49 53-55	15
25 - 50	62, 63, 82, 84, 86, 97, 98	7	32, 60, 62, 81, 82, 92, 94, 97, 98	9	11, 24, 28, 30, 33-36, 39-42, 52, 67, 68, 70, 71, 75, 78, 89, 90, 93	22	1-6, 13, 16-19, 21-23, 26, 29, 31, 38, 43, 50-52, 56, 57, 65, 72, 79	27
0 - 25	83, 85, 87, 99	4	63, 83-87, 99	7	20, 32, 60-63, 81-87, 91, 92, 94-99	21	17, 20, 24, 27, 28, 30, 32-37, 39-42, 60-64, 66-71, 73-78, 80-99	53

Table 9

Percentage of Students Mastering

Each Item by Level of Retardation

Item Number	Item	Percentage Mastering			
		Mild	Moderate	Severe	Profound
1	Wipes food from hands	98.3*	94.9	82.3	49.2
2	Wipes food from face	96.6*	94.1	79.9	45.5
3	Blows nose	95.7*	93.0	74.2	40.3
4	Washes, dries hands	99.1*	95.2	83.9	46.0
5	Washes, dries face	96.5*	89.0	69.0	27.0
6	Brushes teeth	94.0*	91.5	71.1	33.3
7	Eats solid finger food	100.0*	98.4	96.4	92.2
8	Drinks from glass	100.0*	97.9	94.4	82.8
9	Uses spoon	97.4*	96.0	86.9	67.2
10	Uses fork	94.0	95.3*	80.0	54.7
11	Uses knife	76.6*	67.5	30.7	19.3
12	Uses napkin	98.3*	95.1	81.6	56.3
13	Uses proper table manners	91.3*	90.5	74.8	39.1
14	Pulls down clothes	97.3	98.4*	88.4	66.1
15	Pulls up clothes	96.5	97.1*	84.3	63.9
16	Puts on socks	95.6*	91.9	70.3	35.1
17	Uses snaps	93.1	93.9*	69.7	39.7
18	Uses buttons	95.7*	93.4	70.0	37.9
19	Uses zipper	95.7*	94.4	80.8	43.3
20	Ties shoes	70.3*	62.1	20.2	1.8

(Cont'd next page)

Table 9 (Cont'd)

Item Number	Item	Percentage Mastering			
		Mild	Moderate	Severe	Profound
21	Urinates appropriately	99.1*	96.7	86.1	48.4
22	Reports sickness or injury	96.6*	93.0	71.6	29.5
23	Defecates appropriately	98.2*	96.2	82.9	47.5
24	Demonstrates menstrual care	69.6*	63.1	39.8	6.7
25	Picks up things, puts them away	94.8	96.0*	87.1	61.9
26	Empties trash	93.8*	93.7	76.9	48.1
27	Sweeps floor	91.0*	80.4	50.7	21.2
28	Cleans sink	87.4*	79.2	46.6	20.3
29	Opens container	99.1*	94.9	77.5	38.2
30	Opens bottles	84.1*	65.6	34.8	17.3
31	Opens jars	94.3*	90.0	70.5	40.4
32	Opens cans	62.7*	44.5	17.2	5.6
33	Washes dishes	79.6*	71.8	38.5	14.0
34	Hangs clothes	81.1*	74.7	47.2	17.3
35	Grooms hair	80.0	80.2*	44.3	21.1
36	Applies deodorant	79.5*	77.4	45.4	15.2
37	Hangs clothes on hanger	85.0*	78.9	50.7	21.1
38	Identifies own clothing	99.1*	98.2	84.5	40.6
39	Identifies clothing appropriate for weather conditions	73.9*	67.1	39.4	11.3

(Cont'd next page)

Table 9 (Cont'd)

Item Number	Item	Percentage Mastering			
		Mild	Moderate	Severe	Profound
40	Identifies Objects to avoid	80.9*	73.4	35.7	9.8
41	Identifies Objects Harmful to Eyes	87.0*	83.5	41.6	13.1
42	Identifies Objects harmful if swallowed	89.5*	77.6	33.3	8.2
43	Passes sharp objects safely	88.8*	82.7	59.6	32.3
44	Gets on and off school bus safely	97.3	98.3*	91.4	73.2
45	Behaves in safe manner on playground	95.6*	94.7	86.3	73.8
46	Pays attention in group situations	86.1	89.2*	69.5	53.8
47	Avoids physical abuse of others	75.0	82.5*	75.7	62.5
48	Avoids verbal abuse of others	78.4	82.3*	74.8	63.8
49	Cooperates with class members	87.1	88.3*	73.9	55.4
50	Obeys explicit rules	88.6*	87.8	71.6	43.8
51	Respects, cares for property	88.8*	87.6	67.1	37.1
52	Begins and continues work with a minimum of supervision	76.7	78.9*	50.3	29.7
53	Walks	94.7*	92.7	81.3	61.1
54	Runs	92.8*	91.9	80.8	54.7

(Cont'd next page)

Table 9 (Cont'd)

Item Number	Item	Percentage Mastering			
		Mild	Moderate	Severe	Profound
55	Climbs stairs	90.1	91.8*	76.7	50.9
56	Throws underhand	92.8	95.7*	83.3	45.8
57	Catches	87.8	91.7*	77.6	48.3
58	Opens, closes doors	95.7	98.3*	95.2	75.0
59	Grasps, picks up an object	99.1*	98.6	97.4	87.5
60	Dials private-dial telephone	70.0*	44.7	10.2	0.0
61	Writes name legibly	74.8*	63.3	17.5	0.0
62	Writes own telephone number legibly	43.6*	31.4	5.2	0.0
63	Writes own street address legibly	30.1*	24.6	3.9	0.0
64	Produces ten food words	89.7*	85.5	52.9	11.3
65	Repeats five food words after teacher	96.6*	96.3	78.1	32.1
66	Identifies ten food words	87.9	91.8*	60.0	21.7
67	Comprehends ten food words	89.5*	81.4	41.6	14.8
68	Produces three-word phrase/sentences	83.3*	66.9	27.7	4.0
69	Repeats three-word phrase/sentences	90.4*	77.4	40.3	9.8
70	Discriminates loud, soft sounds	88.7*	85.7	45.0	13.1

(Cont'd next page)

Table 9 (Cont'd)

Item Number	Item	Percentage Mastering			
		Mild	Moderate	Severe	Profound
71	Follows three-step directions	90.5*	79.6	46.1	16.1
72	Identifies major body parts	98.3*	96.7	83.3	46.8
73	Names body parts	98.3*	93.5	67.4	23.2
74	Differentiates between up and down	98.3*	92.0	60.3	21.9
75	Differentiates between front and back	93.1*	88.3	50.4	18.8
76	Differentiates between over and under	95.7*	85.7	54.6	18.0
77	Differentiates between around and through	88.7*	83.5	52.6	15.9
78	Differentiates between left and right	69.3*	60.4	33.6	11.1
79	Knows own sex	98.3*	97.4	80.5	33.3
80	States whole name	96.6*	94.8	69.6	23.6
81	States address	52.6*	45.9	10.3	0.0
82	States telephone numbers	45.9*	35.1	5.8	0.0
83	Names ten flashcard safety words	22.8*	12.0	2.2	2.0
84	Comprehends ten written safety words	35.1*	20.8	5.1	0.0
85	Names ten flashcard public sign words	16.8*	9.8	1.9	0.0
86	Comprehends ten written public sign words	26.5*	12.9	3.2	0.0

Table 9 (Cont'd)

Item Number	Item	Percentage Mastering			
		Mild	Moderate	Severe	Profound
87	Names five flashcard public building title words	13.5*	8.1	2.2	0.0
88	Counts orally	92.2*	86.3	52.3	13.5
89	Counts objects	89.6*	79.9	39.9	7.7
90	Names flashcard numerals	84.5*	72.9	34.6	2.0
91	Selects designated number of objects from group	80.2*	65.4	21.7	1.7
92	Differentiates between more or less	56.5*	46.8	15.7	1.7
93	Differentiates between all-some-none	82.3*	73.0	27.7	5.1
94	Tells time on hour	57.5*	41.3	11.6	0.0
95	Identifies coins	68.7*	55.7	16.9	3.4
96	Names coins	64.3*	52.2	14.6	3.7
97	Reads five prices under $1.00	46.0*	25.4	3.8	0.0
98	Differentiates worth of coins, currency	48.7*	30.7	4.2	0.0
99	Makes change up to 50 cents	9.9*	3.9	.6	0.0

* Indicates which group demonstrated superior performance.

Student Performance by Race

Table 10 illustrates which items were mastered most frequently by students from each of the three major race classifications which were tested. Since only five students were classified in a race other than Black, Hispanic or White, they were omitted from discussion in this section. The results indicate a change from what would be expected. On most achievement tests, where race is investigated, whites outperform Blacks consistently. Examination of the 75% to 100% mastery level in Table 10 reveals 43 items were mastered at this level by Hispanic students, 49 items by White students and 52 items were mastered by Blacks; hence, Blacks outperformed Hispanic and White students.

Table 10

Level of Item Mastery by Race

Percentage Mastering Each Item	BLACK		HISPANIC		WHITE	
	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items
75 - 100	1-10, 12-19, 21-23, 25-27, 29, 31, 38, 43-51, 53-59, 65, 66, 72-74, 76, 79, 80, 88	52	1-5, 7-10, 12-15, 17-19, 21, 23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 72, 79, 80	42	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 66, 72-74, 76, 79, 80	49
50 - 75	11, 20, 24, 28, 30, 33-37, 39-42, 52, 61, 64, 67-71, 75, 77, 89-91, 93, 95, 96	30	6, 16, 22, 27, 28, 35-37, 39, 43, 52, 64, 66, 70, 71, 73-77, 88-90	23	11, 24, 27, 28, 30, 33-37, 39-43, 52, 64, 67-71, 75, 77, 78, 88-90, 93	29
25 - 50	32, 60, 78, 81, 92, 94, 98	7	11, 20, 24, 30, 32-34, 40-42, 61, 67-69, 78, 81, 91-93, 95	20	20, 32, 60, 61, 81, 82, 91, 92, 94-96	11
0 - 25	62, 63, 82-87, 97, 99	10	60, 62, 63, 82-87, 94, 96-99	14	62, 63, 83-87, 97-99	10

Table 11 examines the percentage of students that successively completed an item, by race. Items were included in Table 11 only if the percentage of students mastering the item was at least 5% more for one race than it was for one or both of the other two races. Hispanic students performed less well than Blacks and Whites on all 72 items listed. White students performed best on 18 items, while Black students performed best on 54 items. There are 25 items in Table 11 where Black and White students differed by at least 5 percentage points. Black students outperformed White students on 22 out of the 25 items.

Table 11

Percentage Mastering Each Item

Where One Race Outperformed Another

Item Number	Item	Percentage Mastering		
		Black	Hispanic	White
1	Wipes food from hands	92.4*	88.9	87.3
2	Wipes food from face	91.8*	83.3	86.2
5	Washes, dries face	84.6*	81.1	78.5
11	Uses knife	58.2*	38.5	53.8
12	Uses napkin	91.0*	84.3	89.0
13	Uses proper table manners	86.2*	79.7	82.2
14	Pulls down clothes	94.6*	88.9	94.4
15	Pulls up clothes	93.1*	84.9	92.4
16	Puts on socks	86.2*	71.0	83.0
17	Uses snaps	86.0*	80.5	82.9
18	Uses buttons	87.2*	79.2	82.0
19	Uses zipper	92.0*	78.4	87.0
20	Ties shoes	58.2*	35.0	40.8
22	Reports sickness or injury	84.5	74.2	84.6*
23	Defecates appropriately	91.9*	86.5	89.3
24	Demonstrates menstrual care	53.8*	48.3	52.0
26	Empties trash	88.9*	83.7	86.1
27	Sweeps floor	77.0*	65.6	64.9
28	Cleans sink	72.2*	57.5	64.5

(Cont'd next page)

Table 11 (Cont'd)

Item Number	Item	Percentage Mastering		
		Black	Hispanic	White
29	Opens container	89.6*	82.8	87.9
30	Opens bottles	63.7*	42.3	50.5
31	Opens jars	87.1*	75.2	80.3
32	Opens cans	44.4*	31.3	28.6
33	Washes dishes	67.0*	34.7	57.9
34	Hangs clothes	70.3*	50.0	60.9
35	Grooms Hair	64.1	60.5	69.3*
36	Applies deodorant	70.3*	51.2	65.0
37	Hangs clothes on hanger	74.7*	58.1	65.2
38	Identifies own clothing	92.0	84.9	92.6*
39	Identifies clothing appropriate for weather conditions	56.0	50.4	57.3*
40	Identifies objects to avoid	62.4*	48.4	59.3
41	Identifies objects harmful to eyes	70.6*	44.3	68.6
42	Identifies objects harmful if swallowed	63.6*	40.8	63.3
43	Passes sharp objects safely	76.2*	70.2	72.4
48	Avoid verbal abuse of others	76.5*	75.2	80.8
53	Walks	89.7*	83.2	87.1
54	Runs	90.1*	77.6	85.7
55	Climbs stairs	88.6*	81.0	84.0
56	Throws underhand	91.9*	86.3	89.1

(Cont'd next page)

Table 11 (Cont'd)

Item Number	Item	Percentage Mastering		
		Black	Hispanic	White
57	Catches	89.9*	80.6	83.6
60	Dials private-dial telephone	35.3*	20.5	35.0
61	Writes name legibly	50.7*	29.8	47.2
62	Writes own telephone number legibly	21.6	17.4	24.3*
63	Writes own street address legibly	17.1	10.7	18.8*
64	Produces ten food words	73.5	60.5	74.4*
65	Repeats five food words after teacher	89.9*	83.7	87.9
66	Identifies ten food words	76.9	59.5	81.9*
67	Comprehends ten food words	67.0	46.8	69.0*
68	Produces three word phrase/ sentences	57.9*	33.9	52.9
69	Repeats three word phrase/ sentences	72.6*	47.5	61.9
70	Discriminates loud, soft sounds	72.9*	56.3	70.5
71	Follows three-step directions	69.2*	54.2	68.8
72	Identifies major body parts	90.4	79.4	92.8*
73	Names body parts	84.4*	68.5	84.2
74	Differentiates between up and down	80.4	70.9	80.5*
75	Differentiates between front and back	74.5	58.3	75.4*
76	Differentiates between over and under	75.7	54.8	75.9*

(Cont'd next page)

Table 11 (Cont'd)

Item Number	Item	Percentage Mastering		
		Black	Hispanic	White
77	Differentiates between around and through	72.9	53.6	73.9*
78	Differentiates between left and right	49.8	44.0	51.2*
79	Knows own sex	89.5	81.6	90.5*
81	States address	35.7*	26.9	34.2
82	States telephone numbers	22.6	19.7	28.6*
88	Counts orally	75.9*	69.0	72.6
91	Selects designated number of objects from group	52.0*	42.6	50.3
92	Differentiates between more or less	38.7*	29.3	35.0
93	Differentiates between all-some-none	61.0*	39.8	56.1
94	Tells time on hour	30.5	16.1	34.2*
95	Identifies coins	55.7*	26.9	34.7
96	Names coins	54.0*	22.7	31.1
97	Reads five prices under $1.00	20.4*	7.6	20.3
98	Differentiates worth of coins, currency	31.0*	11.8	17.8
99	Makes change up to 50 cents	6.9*	0	1.2

* Indicates which group demonstrated superior performance on the item.

Two possible explanations seem feasible for the better performance by Black students: (1) the distribution of Black students over levels of retardation is such that a disproportionate number of Blacks is classified at one of the milder retardation levels, and/or (2) the distribution of Black students over age is such that a disproportionate number of Blacks fall in the older age groups. It is important to investigate these distributions, since it has been shown that students suffering from milder retardation handicaps tend to perform better than students who are more severely retarded, and that older students perform better than younger students.

Table 12 gives the percentage of students at each retardation level by race. Hispanic students were more frequently classified severely or profoundly retarded, White students were more frequently classified mildly retarded, but Black students maintained an almost constant percentage through the four retardation levels.

Table 12

Percentage of Students at Each

Retardation Level by Race

Race	Level of Retardation			
	Mild	Moderate	Severe	Profound
Hispanic	2.6	5.6	10.3	12.5
White	62.1	54.8	52.5	51.6
Black	35.3	39.6	37.2	35.9

Table 13 gives the percentage of students at each age by race. It is clear that the proportion of students from each race varies very little for the five age groups.

Table 13

Percentage of Students at Each Age by Race

Race	AGE				
	10 Years	11 Years	12 Years	13 Years	14 Years
Hispanic	7.2	7.9	7.4	8.4	6.7
White	57.4	53.3	53.8	52.9	53.1
Black	35.5	38.7	38.8	38.7	40.2

The results indicate neither level of retardation nor age seem to be the reason Black students outperformed White students.

Type of School

The frequencies with which each of the items were successfully completed by students attending each one of the three types of TMR programs are given in Table 14. A comparison between the contractual schools and regular or special schools is not appropriate since only 16 of the state's TMR students were enrolled in contractual schools. However, examination of the items mastered in regular schools and those mastered in special TMR schools indicates almost identical performance by the students.

Table 14

Level of Item Mastery by Type of TMR School

Percentage Mastering Each Item	REGULAR SCHOOL		SPECIAL SCHOOL		CONTRACTUAL SCHOOL	
	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items
75 - 100	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 43-51, 53-59, 65, 66, 72-74, 79, 80, 88	50	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 66, 72-74, 76, 79, 80	49	4, 5, 7-10, 14-19, 21, 23, 29, 31, 44, 53, 55, 56, 58, 59, 72, 74, 79	25
50 - 75	11, 27, 28, 30, 33-37, 39-42, 52, 64, 67-71, 75-77, 89, 90, 93	26	11, 24, 27, 28, 30, 33-37, 39-43, 52, 64, 67-71, 75,77, 88-91, 93	29	1-3, 6, 11-13, 22, 25-27, 35, 38-40, 45-52, 54, 57, 65, 66, 73,	28
25 - 50	20, 24, 32, 60, 61, 78, 81, 82, 91, 92, 94-96	13	20, 32, 60, 61, 78, 81, 82, 92, 94-96	11	20, 28, 33, 34, 36, 37, 41-43, 61, 64, 67-71, 75, 77, 78, 80, 88-93, 94, 95	28
0 - 25	62, 63, 83-87, 97-99	10	62, 63, 83-87, 97-99	10	24, 30, 32, 60, 62, 63, 76, 81-87, 96-99	18

Duration of TMR Enrollment

Table 15 presents the frequency with which items were mastered by students who had been in a TMR program for different lengths of time. Examination of the total number of items mastered at the 75% to 100% level reveals students enrolled less than four months mastered 65 items, and as duration of enrollment increased to the one to four year range, the number of items mastered decreased to 47. For students enrolled longer than four years, 52 items were mastered at the 75% to 100% level. The reason for this initially unexpected phenomenom can be seen by examining the nature of students in each duration-of-enrollment range. Only 31 students had been enrolled less than four months, 163 had been enrolled four months to one year, 667 had been enrolled one year to four years, and 846 had been enrolled more than four years. Further analyses of the 31 students in the less than four month enrollment period indicates 20 were classified in the moderately retarded group, four in the severely retarded group and four were not classified on level of retardation. Students who had been enrolled for longer periods of time tended to be more heavily concentrated under the moderate and severe retardation categories. Hence, it appears the 31 students who were enrolled for less than four months were retarded less than the group as a whole. It is possible that many of these students had been functioning at a marginal EMR level and had been only recently identified as a TMR student.

Table 15

Level of Item Mastery by Length of Time in Program

Percentage Mastering Each Item	Less Than 4 Months		4 Months to 1 Year		1 Year to 4 Years		4 Years or More	
	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items	Item Numbers	Total No. of Items
75 - 100	1-10, 12-19, 21-23, 25-31, 33-39, 41, 42, 44-46, 53-59, 64-67, 69-73, 74-77, 79, 80, 88, 89, 90	65	1-10, 12-19, 21-23, 25, 26, 29, 31, 36, 38, 41, 43-51, 53-59, 64-66, 70, 71-77, 79, 80, 88, 89	59	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 65, 72-74, 79, 80	47	1-10, 12-19, 21-23, 25, 26, 29, 31, 38, 44-51, 53-59, 64-66, 72-76, 79, 80, 88	52
50 - 75	11, 20, 32, 40, 43, 47-52, 61, 68, 78, 91-93, 95, 96	19	11, 20, 24, 27, 28, 30, 33-35, 37, 39, 40, 42, 52, 61, 67-69, 78, 90, 91, 93, 95, 96	24	27, 28, 33-37, 39-43, 52, 64, 66-71, 75-77, 88, 89, 90	26	11, 24, 27, 28, 30, 33-37, 39-43, 52, 67-71, 77, 78, 89-91, 93	27
25 - 50	24, 60, 62, 63, 81, 82, 94, 97, 98	9	32, 60, 62, 81, 82, 92, 94, 97, 98	9	11, 20, 24, 30, 32, 60, 61, 78, 81, 91-96	15	20, 32, 60, 61, 81, 82, 92, 94-96	10
0 - 25	83-87, 99	6	63, 83-87, 99	7	62, 63, 82-87, 97-99	11	62, 63, 83-87, 97-99	10

A comparison between students enrolled in a TMR program from one year to four years with those enrolled for four years or more could also be misleading. The students enrolled from one year to four years naturally tended to be younger than the students who had been enrolled four years or more. Looking at Table 15, one might observe that 52 items were mastered by 75% to 100% of the students enrolled four years or more while 47 items were mastered by 75% to 100% of the students enrolled from one year to four years. It is unclear whether this difference in number of items mastered is related to the age of the student or the length of time the student had been in the program.

In summary, if Table 15 is used to compare item mastery between the four durations of time in a TMR program, then misleading conclusions will result. Future comparisons of this nature should control for the students age and level of retardation.

Omitted Items

Table 16 illustrates how many students were not rated on each item. The results are encouraging in that 84 of the 99 items were omitted for less than 26 of the 1742 students. The items omitted by 26 to 43 people, include such tasks as cleans sink, opens container, washes dishes, dials private telephone number, writes own telephone number legibly, states telephone number, selects designated number of objects and tells time on the hour. Items 34 and 93 were omitted by 57 and 47 people, respectively. They required the student to hang clothes and to differentiate between all, some and none. Items requiring the use of a knife and fork, which are not commonly used in TMR lunchrooms, and the opening of cans (11 and 32) were omitted by 65 and 67 students, respectively.

Table 16

Frequency With Which Items Were Omitted

Number of Students Omitting the Item	Percentage of Students Omitting the Item	Item	Total Number of Items
0 - 8	0	1, 2, 4, 7-10, 12, 15, 21-23, 25, 26, 40, 41, 43-49, 52-54, 58, 59, 61, 63-69, 72-74, 88	40
9 - 25	1	3, 5, 6, 13, 14, 16-20, 27, 31, 35, 37-39, 42, 50, 51, 55-57, 70, 71, 75-81, 83-87, 89, 90, 92, 95-99	44
26 - 43	2	28, 29, 33, 60, 62, 82, 91, 94	8
44 - 60	3	93, 34	2
61 - 78	4	11, 32	2
79 or more	5 or more	24, 30, 36	3

The three most frequently omitted items; 24, 30, and 36 were omitted by 502, 99 and 509 students, respectively. Item 24 demonstrates menstrual care was omitted heavily for males. These omissions were caused by a failure to properly follow the test administration procedures. Male students were supposed to be coded physically unable for item 24. Many females were omitted for this item also. In many instances, this was probably due to the female not being mature enough for the item to be appropriate; these students should also have been coded physically unable. Item 30 requires the student to open bottles and item 36 requires the application of deodorant.

APPENDIX

Frequencies in Percent with Which Each of the Six Scale Values were Used for Each Item

Appendix

Frequencies in Percent with Which Each of the Six Scale Values Were Used for Each Item.

1. Completes Independently
2. Completes When Asked
3. Completes When Cued or Prompted
4. Partially Completes
5. No
6. Physically Unable
7. The item was omitted

	1	2	3	4	5	6	7
1. WIPES FOOD FROM HANDS: Uses a paper towel or napkin to wipe all food from hands.	59	20	10	9	1	0	0
2. WIPES FOOD FROM FACE: Uses a paper towel or napkin to wipe all food from face.	51	25	11	11	1	0	0
3. BLOWS NOSE: Takes a tissue, blows nose, wipes nose clean.	53	20	11	11	4	0	1
4. WASHES, DRIES HANDS: Turns on water, works soap over hands, rinses all soap from hands, turns off water, dries hands completely with towel.	61	17	11	9	1	1	0
5. WASHES, DRIES FACE: Turns on water, applies water to face, works soap over face, rinses face and hands with water, turns off water, dries face and hands completely with towel.	44	20	16	15	3	0	1
6. BRUSHES TEETH: Places toothpaste on brush, brushes teeth, rinses and dries mouth.	45	24	13	12	5	1	1
7. EATS SOLID FINGER FOODS: Uses fingers to pick up solid food from plate, places it in mouth, chews, swallows.	92	4	2	2	0	0	0
8. DRINKS FROM GLASS: Drinks liquid from a glass at least half full without dribbling or spilling.	90	4	2	3	1	1	0
9. USES SPOON: Uses a spoon to scoop up liquid and/or soft food, puts it into mouth without spilling or dropping.	82	6	4	7	1	0	0

		1	2	3	4	5	6	7
10.	USES FORK. Uses a fork to separate, spear, or scoop an appropriate amount of solid or semi-solid food, puts it in mouth without spilling or dropping.	73	9	6	9	2	1	0
11.	USES KNIFE: Uses a fork and knife to cut solid food.	23	13	15	16	26	3	4
12.	USES NAPKIN: Opens a napkin and either places it in lap or under chin before starting to eat or drink.	38	37	14	4	7	0	0
13.	USES PROPER TABLE MANNERS.	40	25	18	12	5	0	1
14.	PULLS DOWN CLOTHES: Pulls down and completely and correctly removes garment.	80	7	5	5	1	1	1
15.	PULLS UP CLOTHES: Pulls up and completely and correctly removes garment.	78	8	5	6	1	1	0
16.	PUTS ON SOCKS: Puts on and adjusts sock on each foot so that they fit smoothly.	61	11	10	12	4	2	1
17.	USES SNAPS: Snaps and unsnaps completely and correctly snaps on clothes while wearing.	67	10	5	8	8	2	1
18.	USES BUTTONS: Buttons and unbuttons clothing while wearing.	68	9	5	8	8	1	1
19.	USES ZIPPER: Zips and unzips an undetachable zipper on clothing while wearing.	73	9	5	6	5	1	1
20.	TIES SHOES: Ties laces securely with a bow knot on shoes while wearing.	39	4	3	12	40	3	1
21.	URINATES APPROPRIATELY: Closes door of bathroom, unzips or pulls down clothing, urinates into toilet bowl, uses appropriate amount of tissue, flushes toilet, adjusts clothing, washes and dries hands.	73	11	7	7	1	1	0

		1	2	3	4	5	6	7
22.	REPORTS SICKNESS OR INJURY TO PERSON IN AUTHORITY: Communicates that he/she is sick or hurt and indicates the location of illness or injury.	66	12	5	6	10	1	0
23.	DEFECATES APPROPRIATELY: Closes door of bathroom, unzips or pulls down clothing, defecates into toilet bowl, uses appropriate amount of tissue, flushes toilet, adjusts clothing, washes and dries hands.	72	10	7	8	2	1	0
24.	DEMONSTRATES MENSTRUAL CARE: Removes soiled sanitary napkin when necessary, wraps it in paper, disposes of it, puts on clean napkin correctly.	8	1	2	2	8	50	29
25.	PICKS UP THINGS, PUTS THEM AWAY: Picks up scattered objects, places in designated spots.	36	37	18	5	3	1	0
26.	EMPTIES TRASH: Empties contents of wastebasket into central receptacle without spilling trash on ground or floor.	33	39	13	8	5	3	0
27.	SWEEPS FLOOR: Sweeps floor with broom, sweeps dirt into dustpan, empties into waste container.	21	27	19	20	9	3	1
28.	CLEANS SINK: Applies cleanser, scrubs with sponge, rinses until all cleanser and dirt are gone.	16	22	26	22	11	2	2
29.	OPENS CONTAINER	70	10	5	6	6	2	2
30.	OPENS BOTTLES. Uses a bottle opener to remove top from bottle without spilling contents.	25	14	12	12	28	3	6

		1	2	3	4	5	6	7
31.	OPENS JARS: Removes lid from jar without spilling contents.	50	22	8	7	10	2	1
32.	OPENS CANS: Uses a manual can opener to remove lid without spilling contents.	13	7	13	17	43	4	4
33.	WASHES DISHES: Prepares water, washes, rinses, and places dishes in drainer without breaking.	17	18	22	20	19	2	2
34.	HANGS CLOTHES: Hangs clothes on clothesline, pins garments securely with clothespins.	24	22	15	15	18	2	3
35.	GROOMS HAIR: Uses hair care tools appropriately.	31	19	15	18	15	1	1
36.	APPLIES DEODORANT: Applies deodorant to underarm, restricting coverage to underarm.	17	19	11	7	16	1	29
37.	HANGS CLOTHES ON HANGER: Places clothes on hanger right side out, straightens and fastens clothes on hanger, hangs hanger on clothesrack.	31	19	17	19	12	1	1
38	IDENTIFIES OWN CLOTHING.	75	11	5	5	4	0	1
39.	IDENTIFIES CLOTHING APPROPRIATE FOR WEATHER CONDITIONS.	*	42	13	26	17	1	1
40.	IDENTIFIES OBJECTS TO AVOID	*	44	14	20	20	1	0
41.	IDENTIFIES OBJECTS HARMFUL TO EYES.	*	56	10	15	17	1	0
42.	IDENTIFIES OBJECTS HARMFUL IF SWALLOWED.	*	49	11	16	22	2	1
43.	PASSES SHARP OBJECTS SAFELY: Passes blunt end to another person without injury to self or person receiving object.	30	21	22	7	19	1	0

* This response was not appropriate for the item.

		1	2	3	4	5	6	7
44.	GETS ON AND OFF SCHOOL BUS SAFELY: Uses hand rail and does not fall.	81	8	4	3	1	2	0
45.	BEHAVES IN SAFE MANNER ON PLAYGROUND: Stays within boundaries and safely uses equipment.	59	20	11	6	2	1	0
46.	PAYS ATTENTION IN GROUP SITUATIONS: Pays attention while participating in a group.	35	25	21	13	5	0	0
47.	AVOIDS PHYSICAL ABUSE OF OTHERS: e.g., avoids withdrawing, hitting, pushing, spitting, obscene gestures, frowning.	46	20	13	12	9	0	0
48.	AVOIDS VERBAL ABUSE OF OTHERS: e.g., apologizes, avoids swearing, ridicule, strange noises, screaming.	47	19	12	11	10	1	0
49.	COOPERATES WITH CLASS MEMBERS: Participates positively in group activities.	41	23	18	13	5	0	0
50.	OBEYS EXPLICIT RULES.	31	28	20	13	6	0	1
51.	RESPECTS, CARES FOR PROPERTY: e.g., asks before using property, returns borrowed items in good condition, picks up litter, cleans work area.	33	28	17	13	8	1	1
52.	BEGINS AND CONTINUES WORK WITH A MINIMUM OF SUPERVISION: e.g., works without excessive redirection, reassurance, constant help or teacher time.	30	18	20	16	16	0	0
53.	WALKS: Swings arms appropriately, feet are straight and land on heels, maintains proper balance.	77	5	3	9	3	4	0
54.	RUNS: Moves arms and feet with body inclined forward; maintains balance while running.	74	6	3	10	3	4	0

		1	2	3	4	5	6	7
55.	CLIMBS STAIRS: Walks up and down stairs, one step at a time, alternating feet without stumbling.	72	5	5	9	4	3	1
56.	THROWS UNDERHAND: Throws a playground ball underhand using both hands, or a softball, using one hand.	63	16	8	6	4	2	1
57.	CATCHES: Catches a large ball when bounced or thrown to him/her.	65	12	6	10	4	2	1
58.	OPENS, CLOSES DOORS: When entering or leaving a room, opens and closes the door using the handle or doorknob.	81	12	3	3	1	1	0
59.	GRASPS, PICKS UP AN OBJECT: Picks up an object and hands it to the teacher without dropping it.	84	11	3	2	0	0	0
60.	DIALS PRIVATE DIAL TELEPHONE: Given a written phone number, picks up receiver, listens for dial tone, and dials all digits in order.	15	6	12	12	51	2	2
61.	WRITES NAME LEGIBLY: First and last names from memory.	37	5	4	17	35	2	0
62.	WRITES OWN TELEPHONE NUMBER Writes, from memory, own number or number to call in an emergency.	15	4	3	6	69	2	2
63.	WRITES OWN STREET ADDRESS LEGIBLY: Writes, from memory, sufficient address to locate student or responsible person; e.g., in rural areas, P.O. number or town name.	11	3	4	12	68	2	0
64.	PRODUCES TEN FOOD WORDS.	*	61	9	15	11	4	0
65.	REPEATS FIVE FOOD WORDS AFTER TEACHER.	*	82	3	5	6	3	0

* This response was not appropriate for the item.

		1	2	3	4	5	6	7
66.	IDENTIFIES TEN FOOD WORDS WHEN SPOKEN BY THE TEACHER.	*	68	8	14	7	1	0
67.	COMPREHENDS TEN FOOD WORDS WHEN SPOKEN BY THE TEACHER.	*	55	10	22	11	1	0
68.	PRODUCES THREE WORD PHRASE/ SENTENCES.	*	40	11	18	26	4	0
69.	REPEATS THREE WORD PHRASE/ SENTENCES.	*	52	10	18	16	4	0
70.	DISCRIMINATES LOUD, SOFT SOUNDS.	*	60	8	10	19	2	1
71.	FOLLOWS THREE-STEP DIRECTIONS.	*	54	13	17	14	1	1
72.	IDENTIFIES MAJOR BODY PARTS: When asked, points to head, arm, leg, stomach, hand, and foot.	*	83	6	6	4	1	0
73.	NAMES BODY PARTS: When teacher indicates major body parts, the student can name them; e.g., arms, legs, head, hand, foot, stomach, eye, ear, nose, mouth, hair, finger, toe, teeth.	*	73	8	10	7	3	0
74.	DIFFERENTIATES BETWEEN UP AND DOWN.	*	72	7	11	9	0	0
75.	DIFFERENTIATES BETWEEN FRONT AND BACK.	*	63	10	13	13	1	1
76.	DIFFERENTIATES BETWEEN OVER AND UNDER.	*	62	11	12	14	1	1
77.	DIFFERENTIATES BETWEEN AROUND AND THROUGH: e.g., when asked, goes around or through a box or cylinder.	*	58	12	13	15	1	1
78.	DIFFERENTIATES BETWEEN LEFT AND RIGHT: e.g., when asked, holds up right or left hand or foot.	*	39	10	11	38	1	1
79.	KNOWS OWN SEX.	*	83	5	2	8	0	1

* This response was not appropriate for the item.

		1	2	3	4	5	6	7
80.	STATES WHOLE NAME: When asked, states first and last names correctly.	*	73	8	7	9	3	1
81.	STATES ADDRESS: When asked, states correctly number of house and street name or sufficient directions for someone to get to his/her home.	*	26	7	17	46	4	1
82.	STATES TELEPHONE NUMBER: States own number or number to call in emergency.	*	21	3	7	63	4	2
83.	NAMES TEN FLASHCARD SAFETY WORDS.	*	6	3	32	55	4	1
84.	COMPREHENDS TEN WRITTEN SAFETY WORDS.	*	9	7	33	47	3	1
85.	NAMES TEN FLASHCARD PUBLIC SIGN WORDS.	*	4	3	26	61	4	1
86.	COMPREHENDS TEN WRITTEN PUBLIC SIGN WORDS.	*	6	4	30	57	3	1
87.	NAMES FIVE FLASHCARD PUBLIC BUILDING TITLE WORDS.	*	4	2	10	79	4	1
88.	COUNTS ORALLY (1-10): When asked, counts in order from 1 to 10.	*	65	6	11	15	3	0
89.	COUNTS OBJECTS (1-10): When shown ten objects, counts each in order without counting the same one twice or without omitting an object.	*	56	8	14	20	2	1
90.	NAMES FLASHCARD NUMERALS (0-10):	*	52	5	16	24	3	1
91.	SELECTS DESIGNATED NUMBER OF OBJECTS FROM GROUP: Selects any designated number of objects (1-12) from a group of twelve objects.	*	41	7	17	31	1	2
92.	DIFFERENTIATES BETWEEN MORE OR LESS.	*	26	8	19	43	1	1

* This response was not appropriate for the item.

		1	2	3	4	5	6	7
93.	DIFFERENTIATES BETWEEN ALL-SOME-NONE.	*	45	9	16	26	1	3
94.	TELLS TIME ON HOUR. Uses a clock to state correct time to nearest hour.	*	23	6	10	56	3	2
95.	IDENTIFIES COINS: With coins (one of each) on a table, can indicate the coin named by the teacher.	*	36	5	20	36	2	1
96.	NAMES COINS: When shown coins (one of each) and asked, can name each correctly.	*	33	5	21	38	3	1
97.	READS FIVE PRICES UNDER $1.00.	*	15	4	11	66	4	1
98.	DIFFERENTIATES WORTH OF COINS, CURRENCY.	*	17	5	15	60	2	1
99.	MAKES CHANGE UP TO 50 CENTS.	*	2	1	4	89	3	1

* This response was not appropriate for the item.